Rec'd PGT/P

\$1 AUG 2004

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 12 September 2003 (12.09.2003)

PCT

(10) International Publication Number WO 03/075604 A3

- (51) International Patent Classification7: H04R 1/20, 5/033
- (21) International Application Number: PCT/IB03/00490
- (22) International Filing Date: 7 February 2003 (07.02.2003)
- (25) Filing Language:

ř,

English

(26) Publication Language:

English

(30) Priority Data: 02075862.9

6 March 2002 (06.03.2002) E

(71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): BERGERE, Julien, L. [FR/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(74) Agent: GROENENDAAL, Antonius, W., M.; Internationaal Octrooibureau B.V., Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

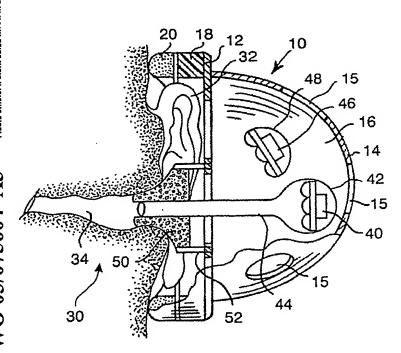
Published:

with international search report

(88) Date of publication of the international search report: 27 November 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HEADPHONE



(57) Abstract: Headphones or earphones are commonly known as electro-acoustic transducers used by a single listener. The invention relates to combing insert and non-insert electro-acoustic transducers in a headphone element. In this way a combination of a wide-low frequency reproduction (insert type) and a wide-high frequency reproduction (non-insert type) are obtained.

WO 03/075604 A3

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H04R1/20 H04F H04R5/033 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 HO4R Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Category ° Citation of document, with indication, where appropriate, of the relevant passages Α DE 41 10 902 A (KOENIG FLORIAN) 1-13 8 October 1992 (1992-10-08) the whole document 1 - 13WO 95 14362 A (KOENIG FLORIAN MEINHARD) 26 May 1995 (1995-05-26) abstract page 2, line 24 -page 4, line 6 DE 197 33 373 A (SENNHEISER ELECTRONIC) 1 - 13Α 4 February 1999 (1999-02-04) the whole document Further documents are listed in the continuation of box C. Patent family members are listed in annex. Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the *A" document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. citation or other special reason (as specified) O document referring to an oral disclosure, use, exhibition or document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 11/09/2003 4 September 2003 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016 Dionisi, M

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
DE 4110902	A	08-10-1992	DE	4110902 A1	08-10-1992
WO 9514362	A	26-05-1995	DE DE DE WO EP	9317314 U1 9401089 U1 9402640 U1 4498865 D2 9514362 A1 0775431 A1	09-03-1995 24-05-1995 14-06-1995 31-10-1996 26-05-1995 28-05-1997
DE 19733373	Α	04-02-1999	DE	19733373 A1	04-02-1999